<u>Claim Amendments</u>

Claim 1 (currently amended): An apparatus for determining <u>one or more values</u> <u>of</u> a bidirectional reflectance distribution function of a subject comprising:

~~a structured light source for producing light;~~

sensing means for sensing [[the]] light;

means for focusing the light between ~~the light source and~~ the sensing means and the subject; and

a computer connected to the sensing means for measuring <u>one or more values of</u> the bidirectional reflectance distribution function <u>of a plurality of locations</u> of the subject <u>simultaneously</u> from the light sensed by the sensing means.

Claim 2 (currently amended): An apparatus as described in Claim [[8]] <u>28</u> wherein the sensing means includes a light absorbing wall which absorbs unwanted light from the light source.

Claim 3 (currently amended): An apparatus as described in Claim [[2]] 1 wherein the focusing means includes a~~ hollow tube lined with mirrors~~ reflecting surfaces through which light from the light source passes, reflecting zero or more times off of the [[mirrors]] reflecting surfaces.

Claim 4 (currently amended): An apparatus as described in Claim [[3]] 1 wherein the sensing means includes an image sensing device for sensing light of the subject that has passed through the focusing means.

Claim 5 (currently amended): An apparatus as described in Claim [[4]] 27 wherein the focusing means includes a half silvered mirror which directs light from the light source to the hollow tube and light from the hollow tube to the image sensing device.

Claim 6 (original): An apparatus as described in Claim 5 wherein the focusing means includes a magnifying lens system for directing the light to the hollow tube.

Claim 7 (currently amended): An apparatus as described in Claim [[1]] 31 wherein the light source includes an array of LEDs.

Claim 8 (original): An apparatus as described in Claim 7 wherein the computer causes the lights in the LED array to turn on in sequence, with light from each LED taking a sub-measurement of the bidirectional reflectance distribution function.

Claim 9 (currently amended): An apparatus as described in Claim [[6]] 4 wherein the imaging sensing device includes a CCD camera.

Claim 10 (original): An apparatus as described in Claim 9 wherein the tube has a square profile.

Claim 11 (currently amended): An apparatus as described in Claim [[3]] 27 wherein the hollow tube has slanted walls.

Claim 12 (currently amended): An apparatus as described in Claim [[3]] 27 wherein the tube has a profile that is larger at its top end and is smaller at the bottom end.

Claim 13 (currently amended): A method for determining one or more values of a bidirectional reflectance distribution function of a subject comprising the steps of:

placing an optically hollow structure against adjacent to the subject;

producing light;

reflecting the light at various angles from the subject through the hollow structure; and

measuring the bidirectional reflectance distribution function <u>of a plurality of locations of the subject simultaneously</u> from the reflected light.

Claim 14 (original): A method as described in Claim 13 wherein the producing step includes the step of triggering light sequentially from each LED from an array of LEDs, the computer in communication with the LEDs.

Claim 15 (original): A method as described in Claim 14 wherein the reflecting step includes the step reflecting light off of mirrors in the hollow structure.

Claim 16 (currently amended): A method as described in Claim [[15]] <u>19</u> wherein the reflecting step includes the step reflecting the light from a half silvered mirror to the hollow structure.

Claim 17 (original): A method as described in Claim 16 wherein the reflecting step includes the step of imaging light from the LEDs with a magnifying lens system onto the surface through the hollow structure.

Claim 18 (original): A method as described in Claim 17 wherein the reflecting step includes the step of reflecting light off of the first wall of a hollow structure.

Claim 19 (currently amended): A method as described in Claim [[18]] 15 wherein the reflecting step includes the steps of reflecting light off a right wall of the hollow structure, reflecting the light off a left wall of the structure, striking the surface with a light, reflecting light off the left wall, reflecting the light off the right wall, passing the light through the lens, traveling the light through the half-silvered mirror, and impinging the light on the CCD camera.

Claim 20 (currently amended): An apparatus for determining one or more values of a bidirectional reflectance distribution function of a subject comprising:

a structured light source for producing light;

only one CCD camera for sensing the light;

means for focusing the light between the light source and the sensing means and the subject; and

a computer connected to the CCD camera for measuring <u>one or more values of</u> the bidirectional reflectance distribution function <u>of a plurality of locations</u> of the subject <u>simultaneously</u> from the light sensed by the sensing means.

Claim 21 (currently amended): An apparatus for determining <u>one or more values of</u> a bidirectional reflectance distribution function of a subject comprising:

a ~~structured~~ light source for producing light;

means for taking sub-measurements of the subject with light from the light source without any physical movement between sub-measurements; and

a computer connected to the taking means for measuring <u>one or more values of</u> the bidirectional reflectance distribution function <u>of a plurality of locations</u> of the subject <u>simultaneously</u> from the light sensed by the taking means.

Claim 22 (previously presented): An apparatus as described in Claim 21 wherein the light source includes an array of LEDs.

Claim 23 (previously presented): An apparatus as described in Claim 22 wherein the computer causes one or more of the lights in the LED array to illuminate [[turn on in sequence]], [[with light from each LED]] and taking a sub-measurement of the bidirectional reflectance distribution function using at least in part the light of the one or more illuminated LEDs.

Claim 24 (previously presented): An apparatus as described in Claim 20 wherein the light source includes an array of LEDs.

Claim 25 (previously presented): An apparatus as described in Claim 24 wherein the computer causes one or more of the lights in the LED array to illuminate [[turn on in sequence]], [[with light from each LED]] and taking a sub-measurement of the bidirectional reflectance distribution function using at least in part the light of the one or more illuminated LEDs.

Claim 26 (new): An apparatus as described in Claim 4 wherein the reflecting surfaces are mirrors.

Claim 27 (new): An apparatus as described in Claim 26 wherein the focusing means includes a hollow tube lined with the mirrors.

Claim 28 (new): An apparatus as described in Claim 1 including a light source for producing light.

Claim 29 (new): An apparatus for determining one or more values of a bidirectional reflectance function of a subject comprising:

a reflector consisting of a plurality of light reflecting surfaces;

a sensor for sensing light from the reflector; and

a processor connected to the sensor for determining one or more values of a bidirectional distribution function of a plurality of locations of the subject simultaneously based at least in part on light sensed by the sensor.

Claim 30 (new): An apparatus as described in Claim 29 wherein the reflecting surfaces are slanted.

Claim 31 (new): An apparatus as described in Claim 28 wherein the light source has multiple individually addressable light elements.

Claim 32 (new): An apparatus as described in Claim 29 including a light source which at least in part illuminates the reflector.

Claim 33 (new): An apparatus as described in Claim 23 wherein the one or more LEDs are lit in a sequence.

Claim 34 (new): An apparatus as described in Claim 25 wherein the one or more LEDs are lit in a sequence.